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IS 4210 (1967): Strip Feeler Gauges for Electrical Purposes
[PGD 25: Engineering Metrology]



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REAFFIRMED

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Indian Standard
SPECIFICATION FOR
STRIP FEELER GAUGES FOR
ELECTRICAL PURPOSES

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

SPECIFICATION FOR STRIP FEELER GAUGES FOR ELECTRICAL PURPOSES

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SPECIFICATION FOR STRIP FEELER GAUGES FOR ELECTRICAL PURPOSES

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 20 July 1967, after the draft finalized by the Engineering Metrology Sectional Committee had been approved by the Mechanical Engineering Division Council.

0.2 This standard is expected to meet the requirements of strip feeler gauges used in electrical machinery for the measurement of air gap. Feeler gauges are covered in IS : 3179-1976*.

0.3 This standard does not cover the requirements of feeler gauges used for inspecting air gap in small, low torque fractional horsepower motors incorporating permanent magnet rotors.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This specification applies to strip feeler gauges comprising a series of gauging blades of graded thicknesses from 0.1 mm to 1.0 mm and 1.0 mm to 2.0 mm.

2. MATERIAL

2.1 The blades shall be made of heat treated bright polished tool steel having a tensile strength not less than 170 kgf/mm² for thickness up to 0.5 mm and not less than 70 kgf/mm² for thickness above 0.5 mm.

*Specification for feeler gauges (0.03 to 1 mm) (*first revision*).

†Rules for rounding off numerical values (*revised*).

3. DIMENSIONS AND TOLERANCES

3.1 Thickness — The thicknesses of the blades in millimetres shall be the following:

0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0,
1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2.0.

3.2 Length — The length of the blades shall be 500 and 1 000 mm.

3.3 Width — The width of the blades shall be 12 mm.

3.4 Thickness Variation — The thickness taken at different points along the length of blade should be within the variation ± 0.005 mm on the nominal thickness. The maximum variation in the thickness of a blade shall not exceed 0.006 mm.

4. GENERAL REQUIREMENTS

4.1 Hardness — The plates shall be hardened and tempered to not less than 540 HV (*see* IS : 1501-1968*).

4.2 When the two ends of the blades are brought together the blade shall not break. Also when the two ends are released after being brought together the blade shall return to its original straight position without any residual bend. Further when the blade is inserted in an air gap to measure the gap it should take any bends in the gap without breakage.

4.3 The blades shall be provided with a 4 mm hole at one end. Set of blades shall be supplied suitably assembled.

4.4 The outer ends of the blades shall be semicircular and the blades, throughout their length, shall be free from sharp edges.

5. MARKING

5.1 Each blade shall be legibly and permanently marked with its nominal thickness at a distance of 90 mm (approximate) from the drilled hole end.

5.1.1 The strip feeler gauges may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

*Method for Vickers hardness test for steel (*first revision*).

6. PACKING

6.1 As a protection against climatic conditions, the blades shall be coated with a suitable anti-corrosive preparation. To prevent any damage due to bending in transport, it is recommended that these strip feeler gauges should be supplied in a stiff leather cover or of suitable stiff material.

6.2 Recommended sets of strip feeler gauges are given below:

<i>Set No.</i>	<i>Number of Blades in a Set</i>	<i>Thickness of Blades mm</i>
1	10	{ 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0
2	11	{ 1.0, 1.1, 1.2, 1.3, 1.4, 1.5 1.6, 1.7, 1.8, 1.9, 2.0

BUREAU OF INDIAN STANDARDS

Headquarters :

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephones : 3 31 01 31, 3 31 13 75

Telegrams : Manaksanstha

(Common to all Offices)

Regional Offices :

Telephone

*Western ; Manakalaya, E9 MIDC, Marol, Andheri (East), BOMBAY 400 093 6 32 92 95

Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola, CALCUTTA 700054 36 24 99

Northern : SCO 445-446, Sector 35-C CHANDIGARH 160036 { 2 18 43
3 16 41

Southern : C. I. T. Campus, MADRAS 600113 { 41 24 42
41 25 19
41 29 16

Branch Offices :

Pushpak, Nurmohamed Shaikh Marg, Khanpur, AHMADABAD 380001 { 2 63 48
2 63 49

F Block, Unity Bldg, Narasimharaja Square, BANGALORE 560002 22 48 05

Gangotri Complex, 5th Floor, Bhadbhada Road, T. T. Nagar, BHOPAL 462003 6 27 16

Plot No. 82/83, Lewis Road, BHUBANESHWAR 751002 5 36 27

53/5 Ward No. 29, R. G. Barua Road, 5th Byelane, GUWAHATI 781003 —

5-8-56C L. N. Gupta Marg. (Nampally Station Road), HYDERABAD 500001 22 10 83

R14 Yudhister Marg, C Scheme, JAIPUR 302005 { 6 34 71
6 98 32

117/418B Sarvodaya Nagar, KANPUR 208005 { 21 68 76
21 82 92

Patliputra Industrial Estate, PATNA 800013 6 23 05

Hantex Bldg (2nd Floor), Rly Station Road, TRIVANDRUM 695001 52 27

Inspection Office (With Sale Point):

Institution of Engineers (India) Building, 1332 Shiveji Nagar, PUNE 410005 5 24 35

*Sales Office in Bombay is at Novelty Chambers, Grant Road, Bombay 400007 89 65 28

†Sales Office in Calcutta is at 5 Chowringhee Approach, P. O. Princep Street, Calcutta 700072 27 88 00

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